

ART. X.—*Ligature of Internal Iliac Artery for Aneurism.* By GILMAN KIMBALL, M. D., of Lowell, Massachusetts.

A. W. WENTWORTH, a machinist, 35 years of age, entered the Lowell Hospital November 15th, 1849.

The account of his case, as given by himself at the time, is briefly as follows : As long ago as 1843, he first discovered a small tumour on the back part of his thigh ; hard, pulsating, with no pain, and causing neither inconvenience nor anxiety.

It remained in this state till some time in 1848, when it began to increase in size, and trouble him somewhat in sitting.

He now showed it to one or two physicians, who assured him it was nothing more than a fleshy tumour, that might be removed at any time with perfect safety.

In July, '49, while ill with dysentery, he fell under the care of Dr. Savory of this city; and during this illness, the tumour was for the first time intelligently examined, and its true character made known to the patient. It was now something larger than a goose-egg, and situated directly over the ischiatic notch.

The throbbing and peculiar *souffle* were present in a very marked degree, and severe pain was occasionally felt shooting down the back part of the thigh and into the calf of the leg. Indeed, every circumstance indicated that the tumour was aneurismal, and that it involved, probably, some branch of the internal iliac artery.

The case was subsequently examined by other surgeons, who expressed the same views as to its nature; and suggested, as had been previously done, the ligaturing the internal iliac artery, as the only means of cure.

Having now become acquainted with the importance as well as danger of his disease, and having also been fully apprised of the nature and risk of the only remedy that could be proposed for its cure, the patient resolved that he would resume his work, hoping that the fearful alternatives of an operation might at least be a long while postponed, if not avoided altogether. In this hope, however, he was disappointed. About the 10th of November, the pain in the thigh and leg increased, and a severe throbbing pain was felt for the first time in the lower part of the abdomen.

His work now became irksome, so much so, that on the 14th of the same month he was obliged to desist from labour altogether.

Alarmed at the progress the disease was making, he looked to the operation as his only hope, and resolved to take the hazard of it with as little delay as possible. With this view, he entered the hospital at once, and in four days after, Nov. 19th, the operation was performed. The mode of proceeding was as follows:—

The patient having first been placed on a bed suitably prepared for the pur-

pose; and having been duly brought under the influence of chloroform, an incision six inches long was made immediately above, and to a certain extent, parallel to Poupart's ligament, beginning at a point just external to the spermatic cord, as it passes through the external ring running outward for the distance of three inches, then turning more directly upward and terminating on a line about midway between the anterior spinous of the ilium and the umbilicus. The abdominal muscles and iliac fascia were next cautiously divided, and at the lower end of the incision, the peritoneum being carefully raised brought to view the external iliac artery. From this point, the peritoneum was still further raised from its pelvic connection by running the forefinger of the left hand along the inner border of the psoas muscle, till it reached the promontory of the sacrum.

The internal iliac was now readily traced in its descent from its point of bifurcation; and while the forefinger of the left hand still rested upon it, a ligature was carried under it by means of a common aneurism needle, and the vessel secured by the aid of an assistant, about an inch from its origin.

The tumour being now examined, was found to be somewhat diminished in size, and its pulsation to have entirely ceased. No accident or embarrassment of any kind occurred in any step of the operation. No vessel having been cut of sufficient size to require tying, the amount of blood lost was of course very inconsiderable, not more than two or three ounces. Finally, the wound was brought together with two or three sutures and adhesive straps, and covered with water dressings.

Nov. 20th. Morning after the operation.—The night had been tolerably comfortable, but for the prolonged effects of chloroform which still produced more or less nausea. Pulse 108; considerable thirst. Abdomen not swollen, nor in the least tender, except in close neighbourhood of the incision.

21st. Increased restlessness for the last twenty-four hours. This morning, however, more quiet, apparently from a dose of opium taken the evening before. Nausea somewhat abated; pulse 106; thirst the same. 7 P. M. Abdomen a little swollen and tender; occasionally hiccup. Still complains of the effects of chloroform.

22d. Night restless, though not without some sleep; pulse 112, full and soft; swelling of abdomen not increased; nausea, thirst and hiccup about the same. Bowels being constipated, ordered ten grains of calomel. 7 P. M. Continues restless; rather more pain in abdomen; cathartic not having operated; ordered eight grains more calomel.

23d. Cathartic operated freely during the night, producing some relief. An uncomfortable night, however, and without sleep. Abdomen less swollen and but slightly tender. Pulse 90, soft and full; some nausea and hiccup still, but not so troublesome. The wound discharges pretty freely, some pus, but mostly the remains of blood which had been retained in the wound at the first dressing.

24th. Had a good night; slept most of the time; pulse 90; no pain, and
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scarcely any tenderness of the abdomen; discharge more purulent. Asks for food.

25th. Remains comfortable, but a good deal prostrated. Sutures have given way, and adhesive straps mostly detached by the abundant discharge. Still no soreness or swelling of abdomen. No indication of peritonitis; pulse 86; complains of bad taste of mouth. Skin rather sallow.

26th. Has been more comfortable for the last twenty-four hours than at any time since the operation. Appearance generally about the same. Complains, however, of soreness of the tumour, which appears slightly inflamed. Perspires freely during sleep.

27th. Although appearing pretty well at present, the last twenty-four hours have been uncomfortable. Increased restlessness and fever. Pulse 110. Constant motion of left leg, drawing up and extending it constantly. Wound discharges very freely, its edges disposed to separate considerably. No appearance of adhesion or granulation in any part of it. Still no sign of peritonitis. Bowels moved regularly without medicine, for four days past. Urinates without pain or difficulty (which has not been the case for four days past). Ordered quinine in grain doses, every six hours. 7 P. M. A restless day; considerable fever; pulse 110; skin dry; thirst; breathing hurried; inclined to wander. Discontinued the quinine.

28th. Does not seem so well as yesterday; night restless and sleepless; pulse 116; thirst; dry tongue. Skin hot and dry. 7 P. M. Appearance the same as in the morning. No movement of the bowels since day before yesterday. Ordered six grains blue pill.

29th. Appears more comfortable; slept considerably through the night, and seems refreshed. Fever less; pulse 90. Complains of sore mouth and tongue, which upon examination proves to be covered with aphthæ. Wound discharges freely, but is not healing. Edges still disposed to separate and require to be brought together with considerable force with adhesive straps, and to be dressed as often as every six hours. Bowels not moved. Ordered another blue pill.

30th. Appearances same as yesterday.

Dec. 1st. Does not seem so well as yesterday. Had a severe chill in the night, followed with a good deal of fever. Slight cough and expectoration of mucus tinged with blood. Bowels moved once.

2d. More comfortable. Slept pretty well, and says he is greatly refreshed, and feels quite well, but for the sore mouth. Had another chill sixteen hours after the first, but less severe, and followed by less fever. Sweats profusely during sleep. Cough and expectoration much diminished.

3d. No material change since yesterday. Has had two slight chills in the last twenty-four hours. Cough and expectoration almost entirely ceased.

4th. Called up in the night and found secondary hemorrhage. Blood still flowing freely from the whole extent of the wound. Called Dr. I. O. Green in consultation, and considered the question of making a desperate attempt to

secure the primitive iliac artery. Decided that it was inexpedient. Hemorrhage ceased after the loss of sixteen or twenty ounces of blood.

The patient was frankly informed of his danger, still he quietly fell asleep and so remained for several hours.

5th. Remarkably comfortable for the last twenty-four hours. No return of hemorrhage. Appearances generally the same as before it occurred.

6th. Hemorrhage returned yesterday afternoon, thirty-six hours from the first attack. It soon ceased, however, and the night was passed very comfortably, till about 5 A.M., when the bleeding returned again with increased violence, and terminated the life of the patient at half-past eight, being the eighteenth day after the operation.

Post-mortem six hours after death.—Upon removing the dressings, and clearing away the partially coagulated blood which had been pushed between the edges of the wound during the final hemorrhage, it was remarked, in the first place, that there was no appearance of healing, no granulations, the edges of the incision still remaining as distinctly defined as at the moment of the operation. At the bottom of the wound, particularly in the neighbourhood of the ligature, a large quantity of pus was found, mixed with blood, and extending in various directions to a considerable distance under the peritoneum. The peritoneum itself, so much of it as had been torn up and exposed in the course of the operation, was very much thickened; and, upon being cut open, was found entirely free of all appearance of inflammation.

A portion of the primitive, and so much of the internal iliac arteries and its branches as could be conveniently got at, including of course the part which had been ligatured, were now carefully removed and examined. The portion of the vessel between the ligature and the bifurcation being slit open, was found entirely empty. No trace of coagulum; no signs of inflammation on its inner surface. The part immediately embraced by the ligature had begun to give way, disclosing a very small aperture, sufficiently large, however, to account for the fatal bleeding.

The body was now turned upon the face, and the examination continued posteriorly. The tumour which had existed previously to the operation was observed to have entirely disappeared; and comparing one side with the other, the only thing indicating the one affected was a slight discolouration over the left ischium. In cutting through this part, both the skin and subjacent parts were found somewhat condensed, and the muscular fibres paler than natural, and intermixed with an unusual quantity of cellular tissue; a condition supposed to have been induced by long continued pressure in sitting. Continuing the incision deeper down toward the supposed location of disease, it was soon found that no sac, or any other usual evidence of aneurism was to be found. Near to the point, however, where the gluteal artery makes its escape through the ischiatic notch, several sacculi or pocket like cavities were observed leading off in several directions, one of them upward under the edge of glu-

teus minimus, and another behind the origin of the pyriformis muscle as it passes out of the pelvis. These cavities were perfectly defined, and lined by a thin membrane of condensed cellular tissue, over which was distributed a net-work of vessels. Still, the evidence of aneurism was too equivocal to be satisfactory; and it now became a matter of regret that this part of the examination had not been made before the parts *within* the pelvis had been disturbed. But upon a farther examination of the vessels which had already been removed from this region, a more satisfactory explanation was made out in the discovery of an aperture through the walls of the internal iliac artery, about two thirds of an inch below the point of ligature.

This aperture was nearly the size of the calibre of the artery, and closed over by a thin coagulum loosely attached to its edges. Its exact relations to the ischiatic notch could not, of course, be determined, inasmuch as the parts surrounding it had been previously cut away with the vessels themselves. It seemed obvious, however, that the aperture in question, and the sacculi discovered outside the pelvic cavity, must have been in communication with each other, and thereby produced the tumour and its accompanying symptoms of aneurism; but for reasons already given, this connection could not be demonstrated, and could only be considered as a matter of reasonable inference.

As regards the fatal result of the case, it would perhaps be scarcely worth while to refer to any particular circumstance which might possibly have had an influence in producing it. That the patient should finally die of hemorrhage is nothing remarkable; but that there should have been such an entire absence of all healing action, and especially that there should have existed such a positive destitution of fibrine as apparently to prevent the due formation of coagulum in the ligatured vessel, is not only remarkable, but quite unprecedented in all similar instances on record. Without drawing any conclusions from these facts, they are nevertheless sufficiently important to be stated; and more particularly since the question has already been raised in the minds of some, whether they were not connected with the large amount of chloroform inhaled during the operation.

LOWELL, March 10th, 1850.

ART. XI.—*Abstract of a Case of Constitutional Irritation following Vaccination.* By CHAS. E. BUCKINGHAM, M. D., Physician to the Boston House of Industry.

B—, a farmer, twenty-five years of age, of previous robust health, residing in the western part of Massachusetts, till within a few weeks of his death. Father died of erysipelas many years ago. Mother and two brothers now living and well. He was the eldest child. Two brothers died in early